

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

- | 1. (currently amended) A low-height dual or multiband antenna ~~having the following features comprising:~~
- a) the dual or multiband antenna is arranged or can be positioned on a metallic base surface or base plate (7),
 - b) the dual or multiband antenna has at least two flat antenna elements ~~(3a, 3b)~~ for operation in two frequency bands which are offset with respect to one another,
 - c) the two flat antenna elements ~~(3a, 3b)~~ are aligned parallel, or at least approximately parallel, to one another,
 - d) the size of the at least two flat antenna elements ~~(3a, 3b)~~ decreases from that flat antenna element ~~(3a)~~ which is closest to the base surface ~~(7)~~ to that flat antenna element ~~(3b)~~ which is furthest away from the base surface or base plate ~~(7)~~,
 - e) the flat antenna element ~~(3b)~~ is in each case connected to the flat antenna element ~~(3a)~~ for transmission in a higher frequency band range, and the flat antenna element ~~(3a)~~ is intended for transmission in a frequency band range which is lower than this,
 - f) the flat antenna elements ~~(3a, 3b)~~ have a short circuit ~~(11a, 11b)~~ on one face ~~(9a, 9b)~~, such that one flat antenna element ~~(3b)~~ for transmission in a higher frequency band is short-circuited via the short circuit ~~(11b)~~ to the flat antenna element ~~(3a)~~ for transmission in a lower frequency band than this, and the flat antenna element

(3a) for transmission in the lowest frequency band range is connected or can be connected via a short circuit (ha) to the metallic base surface or base plate (7),

characterized by including the following further features:

- g) the dual or multiband antenna is in the form of an integral stamped and bent metal part,
- h) ~~for this purpose~~, the antenna has, as an integral component, at least two flat antenna elements (3a, 3b) and the short circuit (11b) which is provided between two flat antenna elements (3a, 3b),
- i) at least the flat antenna element (3a) for transmission in the lowest frequency band and/or for transmission in a frequency band which is lower than an upper frequency band has or have adjacent to its or their antenna element surface (103a, 103b) antenna element vanes (203a, 20Th) which are electrically connected to the associated antenna element surfaces (103a, 103b), with the respective flat antenna element (3b, 3c) for transmission in a frequency band higher than this coming to rest between these antenna element vanes (203a, 203b) in a plan view of the antenna,
- j) the flat antenna element (3b) for transmission in a higher frequency band is arranged on the same plane as the flat antenna elements (3a) for transmission in a frequency band lower than this, or is arranged with a lateral offset with respect to it on a plane which runs parallel or at least approximately parallel to it, and
- k) a feed line (25) which runs from underneath to the lower face of the flat antenna element (3b) arranged at the top is likewise in the form of a stamped and bent

part, which is integrally connected to the remaining parts of the antenna formed in this way.

2. (currently amended) The antenna as claimed in claim 1, ~~characterized in that wherein~~ the electrical short circuit (jib) which connects the adjacent flat antenna elements (3a, 3b) is connected to the two flat antenna elements (3a, 3b) via two bending edges (21'a, 21'b) in opposite senses.

3. (currently amended) The antenna as claimed in claim 1 or 2, ~~characterized in that wherein~~ the flat antenna element (3a) which is arranged at the bottom is provided with a short circuit (ha) which forms a part of the antenna and is connected via a bending line (21a) to the antenna element surfaces (103a) of the flat antenna element (103a).

4. (currently amended) The antenna as claimed in ~~one of claims 1 to 3~~ claim 1, ~~characterized in that wherein~~ a recess (27) which is in the form of a slot is incorporated in the flat antenna element (3b) arranged at the top, to be precise forming a feed line 25, which is curved downward over a bending line, essentially at right angles to the plane of the flat antenna element (3b).

5. (currently amended) The antenna as claimed in ~~one of claims 1 to 4~~ claim 1, ~~characterized in that wherein~~ the end edges (35) of the antenna vanes (203a, 203b)

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run at right angles to the longitudinal edges of the antenna vane.

6. (currently amended) The antenna as claimed in ~~one of claims 1 to 4~~ claim 1,
~~characterized in that~~wherein the end edges (35) of the antenna vanes (203a, 203b)
are aligned such that they converge from the outer edges toward the center or diverge
outwards from the outer edges.

7. (currently amended) The antenna as claimed in ~~one of claims 1 to 6~~ claim 1,
~~characterized in that~~wherein those side edges (31) which point outward of the antenna
vanes (203b) of the antenna elements (3b) for higher frequencies run from their face
which is provided with a short circuit (11b) such that they converge toward their free end
or diverge outwards.

8. (currently amended) The antenna as claimed in ~~one of claims 1 to 7~~ claim 1,
~~characterized in that~~wherein those stamped edges (33) which point inward of the
antenna vanes (203a) of the antenna elements (3a) which are provided for the lower
transmission ranges run from their short-circuit face such that they converge toward
their free end or diverge outward.

9. (currently amended) The antenna as claimed in ~~one of claims 1 to 8~~ claim 1,
~~characterized in that~~wherein the short circuits (11a, 11b) have a rectangular shape
and preferably extend over the entire width of the associated antenna element (3a, 3b).

10. (currently amended) The antenna as claimed in ~~one of claims 1 to 8~~ claim 1,
~~characterized in that~~wherein the short circuits (11a, 11b) are shorter than the width of
the antenna elements (3a, 3b).

11. (currently amended) The antenna as claimed in claim 10, ~~characterized in~~ in
~~that~~wherein the short circuits (11a, 11b) have a triangular or trapezoidal shape.

12. (currently amended) The antenna as claimed in ~~one of claims 1 to 11~~ claim 1,
~~characterized in that~~wherein the antenna vanes (203a, 203b) of the flat antenna
elements (3a, 3b) are arranged at different height levels, with in each case one flat
antenna element for transmission in a higher frequency band range being arranged
above one for transmission in a frequency band range which is lower than this.

13. (currently amended) The antenna as claimed in ~~one of claims 1 to 11~~ claim 1,
~~characterized in that~~wherein at least two flat antenna elements (3a, 3b) are arranged
with their antenna vanes (203a, 203b) at the same height level.

14. (currently amended) The antenna as claimed in ~~one of claims 1 to 13~~ claim 1,
~~characterized in that~~wherein the antenna element vanes (203a, 203b) are preferably
provided on their boundary edge which points outward with antenna vane sections

(203a', 203b') which are preferably aligned such that they point downward.

15. (currently amended) The antenna as claimed in ~~one of claims 1 to 14~~ claim 1,
~~characterized in that~~wherein the antenna is in the form of a triband antenna and,
cascaded with respect to it, has a third flat antenna element (3e) which has at least a
similar shape to that of the other two flat antenna elements (3a, 3b) and is matched for
transmission in the highest frequency band range.